STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
LANSING

GRETCHEN WHITMER
GOVERNOR

LIESL EICHLER CLARK
DIRECTOR

May 25, 2021

**VIA E-MAIL and U.S. MAIL**

Mr. Jim Saric
Remedial Project Manager
United States Environmental Protection Agency
Region 5
77 West Jackson Boulevard (SR-6J)
Chicago, Illinois 60604-3511

Dear Mr. Jim Saric:

SUBJECT: Michigan Department of Environment, Great Lakes, and Energy (EGLE) comments on the Focused Field Investigation (FFI), Kalamazoo River Operable Unit 5 (OU5) Area 2, Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund site.

Enclosed are EGLE's detailed comments on the OU5 Area 2 FFI that was provided to EGLE on April 7, 2021.

If you have any questions, please contact Mr. Daniel Peabody, Environmental Quality Analyst, Remediation and Redevelopment Division at 517-285-3924; PeabodyD@Michigan.gov; or EGLE, P.O, Box 30426, Lansing, Michigan 48909-7926

Sincerely,

Daniel Peabody
Environmental Quality Analyst
Remediation and Redevelopment Division

Enclosure
cc/enc: Mr. David Kline, EGLE
Mr. Joseph Walczak, EGLE
Dr. Keegan Roberts, CDM Smith
Ms. Megen Miller, MDAG
Mr. Mark Mills, Michigan Department of Natural Resources (MDNR)
Mr. Jay Wesley, MDNR
Dr. Lisa Williams, United States Fish and Wildlife Service

**Kalamazoo River Superfund Site**

**Draft Focused Field Investigation**

**OU5 Area 2**

**12-May-2021**

## GENERAL COMMENTS

**Commenting Organization: EGLE**
**General Comment #1:** Section 2 of the document identifies poling as one of the field investigation activities to be undertaken.

EGLE understands that these poling field activities have been delayed until further discussions can be had between the performing and regulatory parties. These discussions should identify, at a minimum, the following:

- Purpose of the poling
- Locations and justification for those locations
- Verification of poling "results" through other empirical assessments (e.g., coring)
- The types of "poling" information to be recorded and the level of accuracy to be expected of this information. For example:
    - If different substrates will be inferred from this investigation, how will substrate types be determined?
    - How will an intermediate large gravel layer be distinguished from bedrock?
    - The SOP states that, "The deepest penetration depth recorded from the poling location will be used to help determine the sediment thickness." How will the physical size and strength of the pole operator influence results?
    - What is meant in the SOP by "type of resistance"?

Following these discussions, EGLE may request additional revisions, including to SOP P-005 Sediment Poling (Probing).

**Commenting Organization: EGLE**
**General Comment #2:** Section 2 of the document identifies bathymetric surveying, staff gage installation, and poling as field investigation activities intended to support sediment transport modeling. There is no mention of additional data collection to support sediment transport modeling such as soil/sediment grain size distribution, flow and velocity measurements, sheer stress, erosion potential, etc. If these data will be collected under this program, there should be discussion included in this document, if not, provide explanation or references for additional data sources or collection activities planned or completed under other field investigation plans.

**SPECIFIC COMMENTS**

**Commenting Organization: EGLE**
**Section: 2. Investigation Objectives**
**Specific Comment #1:** The second bullet states, "Poling will be conducted to evaluate the alluvial footprint of the existing and potential future channel. In conjunction with historical data, poling will also be used to determine depth of soft sediments to help determine the target depth for investigative cores in the PDI".

Poling only provides a depth of refusal (DOR) measurement which may or may not indicate contact with the underlying pre-dam sediments. While DOR measurements may provide useful information, they should not be used to select the maximum core depth since this may lead to an incomplete delineation, insufficient remedial action, and result in the release of contaminated sediments downstream and into Areas that have already been remediated. Instead of advancing cores to pre-determined depths, cores should be advanced until refusal or until a significant quantity of the pre-dam sediments are encountered in the core samples so that Parties have a high degree of confidence that the pre-dam layer has been encountered. This will help ensure the nature and extent of contamination is fully defined and provide an opportunity to evaluate the nature and composition (i.e., grain-size distribution) of the pre-dam sediments that will be needed for remedial and restoration designs.

**Commenting Organization: EGLE**
**Section: 2. Investigation Objectives**
**Specific Comment #2:** The fourth bullet text currently reads: "The terrestrial survey data will be used to quantify removal volumes of soil from the floodplain and banks, as well as to support channel realignment efforts." Change "quantify" to "estimate". Estimation is done prior to removal. Quantification is done following removal.

**Commenting Organization: EGLE**
**Section: 2. Investigation Objectives**
**Specific Comment #3:** The fourth bullet text currently reads: "The terrestrial survey data will be used to quantify removal volumes of soil from the floodplain and banks, as well as to support channel realignment efforts." Provide documentation as to the erosion potential of the various layers of the sediment bed materials (e.g., grain sizes, shear stresses expected to mobilize such materials, etc.) and their contaminant concentrations, especially given the potential for separate distinct (i.e., vertically discontinuous) contamination layers to be present within the sediment bed.

**Commenting Organization: EGLE**
**Section: 2. Investigation Objectives**
**Specific Comment #4:** The fifth bullet text currently reads: "Staff gage installation will allow for collection of river stage data, which will be used to verify hydrodynamic and sediment transport modeling for current and post-dam removal scenarios." Provide documentation as to why the specific staff gauge locations were selected and why flow velocity measures (e.g., acoustic doppler current profilers) are not being used instead.

**Commenting Organization: EGLE**
**Section: 2. Investigation Objectives**
**Specific Comment #5:** The fifth bullet text currently reads: "Hydraulics and sediment transport modeling will play key roles in the sequencing of work phases and understanding what seasons are amenable to specific excavation construction means and methods." Provide documentation as to the modeling packages to be used, their intended purpose, and the required data inputs for each. This information is necessary to determine the adequacy of the selected modeling packages and collected field data for project purposes.

**Commenting Organization: EGLE**
**Section: 3. Data Quality Objectives**
**Specific Comment #6:** Data quality objectives (DQOs)/performance criteria are provided for sediment probing, bathymetric surveys, and terrestrial surveys. However, no DQOs/performance criteria are provided for the staff gauges. Provide such DQOs/performance criteria.

**Commenting Organization: EGLE**
**Sections: 3 & 4.3 Data Quality Objectives/Bathymetric Survey**
**Specific Comment #7:** An SOP for the single beam bathymetric survey was not provided but there is a brief discussion in two sections of the text that sheds some light on proposed means and methods. EGLE notes that in addition to what is described, bathymetric surveys should also include measuring sediment elevations using survey-grade GPS within the bathymetric survey area to demonstrate accuracy and precision of the bathymetric data.

At Operable Unit 5 (OU5), surveys that have been contracted by Responsible Parties are traditionally referenced to an older vertical datum. EGLE notes that the proposed vertical datum may not be consistent with the vertical datum used in previous bathymetric surveys or the datum used for surveys of the Otsego City dam so care will need to be taken when comparing surveyed elevations.

**Commenting Organization: EGLE**
**Section: 3. Data Quality Objectives**
**Specific Comment #8:** The terms "poling" and "probing" are used interchangeably in the document. Consistently use only a single term, as the two techniques have nuanced differences.

**Commenting Organization: EGLE**
**Section: 4.4. Terrestrial Surveying**
**Specific Comment #9:** The text states, "Where possible, data will be collected on 25-foot transects with "freestyle" collection in some areas. Transects will be oriented. approximately perpendicular to the riverbanks". Single beam transects should also be completed parallel to the riverbanks to provide better spatial coverage and this provides an opportunity to compare measured elevations at the intersection of survey lines.

Will the bathymetric survey include only the main channel, or will the anabranches also be surveyed? What about the portion of the Gun River that is in the Area 2 boundary?

**Commenting Organization: EGLE**
**Section: 4.4. Terrestrial Surveying**

**Specific Comment #10:** The text reads as follows: "During data processing, a vegetation filter will be used to ensure accurate readings of the riverbanks and ground surfaces." Provide documentation as to how the accuracy will be empirically confirmed.

**Commenting Organization: EGLE**
**Section: 5. Access**
**Specific Comment #11:** Note that access for staff gauge installations should also be coordinated with the State of Michigan.

**Commenting Organization: EGLE**
**Figure 1**
**Specific Comment #12:** Revise the figure to also include those portions of the Superfund site boundary visible in this map extent.

EGLE notes that implementation of the Area 2 remedy may require working inside of the Area 1 and/or Area 3 boundary. For example, removal of the Area 2 dam, which is a component of the selected sediment remedy, will require construction to take place below the Otsego City dam which is inside of Area 3. Therefore, the data collection that is being performed as part of the Area 2 Focus Field Investigation might need to extend outside of the boundaries shown on Figure 1.

**Commenting Organization: EGLE**
**Figure 2**
**Specific Comment #13:** The Area 2 remedy includes removal of the Otsego City dam, realignment of river, and capping of the upstream anabranches. The proposed staff gauge monitoring network includes two staff gauges in Area 2. One staff gauge is located immediately above the Otsego City dam and one is located near the downstream end of Knife Blade Island which is about a half-mile upstream of the Otsego City dam. Is the staff gauge monitoring network that is shown on Figure 2 sufficient to evaluate the hydraulic changes that will occur throughout Area 2, including the upstream anabranch section? Will transducer readings collected at the staff gauge below the Otsego City dam (Staff Gauge #1) potentially be negatively impacted or influenced by the turbulent flows below the dam and entrainment of air in the water column?

**Commenting Organization: EGLE**
**Figure 3**
**Specific Comment #14:** A portion of the figure legend reads as follows: "See Note 2". Note 2 does not appear to be on the figure. Revise as necessary.